

Original scientific paper


UDK:

37.091.12:005.25(470)

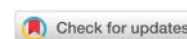
Received: December, 21.2022.

37.091.321:159.923.075(470)

Revised: April, 04.2023.

 10.23947/2334-8496-2023-11-1-27-35

Accepted: April, 10.2023.



Psychological Portrait of the Modern Mentor of Students' Group Projects

Bakaeva Irina Aleksandrovna¹, Dmitrieva Polina Ruslanovna¹, ZHerdeva Aleksandra Anatolievna¹,
Raevskaya Elena Petrovna¹, Timohin Nikolai Nikolaevich¹

¹Southern Federal University, Rostov-on-Don, Russian Federation,

e-mail: iabakaeva@sfedu.ru, pmamedova@sfedu.ru, azherdeva@sfedu.ru, raevskaia@sfedu.ru, timokhin@sfedu.ru

Abstract: The aim of the research is studying the individual psychological characteristics of teachers included in project activities as student teams mentors. The purpose of the work was to identify influence degree of individual psychological characteristics of mentors to the success level in the implementation activities of project student groups. The work presents the results of the empirical study based on the educational intensive SfeduNet, which was implemented and hosted by the Southern Federal University in cooperation with the NTI University 20.35. The object of the empirical study was 84 SfeduNet intensive mentors, aged 26 to 55 years ($M=40.70$; $SD=7.36$), 20,20% of respondents are men and 79,80% are women. Methodological tools are represented by psychological questionnaires: "Methodology for diagnosing general communicative tolerance" (V.V. Boyko), "Motivation for success and fear of failure" (A.A. Rean), "Communicative and organizational skills (COI-2 emotional intelligence questionnaire by D.V. Lyusin. The individual psychological characteristics of project mentors were identified, as well as the features which determine the mentor's effectiveness activity for project team support. They were identified as: tolerance, the ability to understand and accept other people's individuality, their specificity, manipulative orientation in communication, invaluable attitude towards people, the ability not to accept herself or himself as a reference person, beyond comparison with themselves and their value preferences. Collected data are of practical importance and are significant and widely used in project activities implementation at the stage of selection, training and mentors' support.

Keywords: project activity, project mentor, tutor, emotional intelligence, communication skills, organizational skills.

Introduction

At present, serious changes are taking place in our country in the system of Russian education and the socio-cultural life of society. These transformations were the result of transfigurations in the goals and objectives of teaching the younger generation, taking into account the requirements of modern society, restructuring students' way of thinking, transformation in the economic and social spheres of society.

The necessity and relevance of a systemic change in these areas is clearly reflected in the national project "Education", where two extremely important goals for all educational organizations are set: ensuring the competitiveness of Russian education in the global labor market and educating socially responsible and harmoniously developed personality based on spiritual and moral values and the Russian Federation cultural traditions.

The widest opportunities for various kinds of competencies development and competitive graduate preparation are provided by a project-oriented approach to learning.

In this context, we will adhere to the interpretation of "project-oriented learning within the framework of higher education educational programs as a way of the educational process organization involving students in active project activities to solve real problems and tasks, ensuring the formation of the necessary competencies" (Turlo, 2013, p. 28). It is important to note that in modern pedagogical practice, the project method, which is gaining more and more popularity, often represents a substitution of concepts when the word "project" is used to describe methods that have developed over decades. In this regard, we denote that the word "project" describes "a product (material or intellectual) which is developed and

^{*}Corresponding author: iabakaeva@sfedu.ru



manufactured by students independently from an idea to its implementation, possessing subjective or objective novelty, created under teacher's consultation and supervision" (Sharipov, 2012, p. 90). Not without reason, 2023 was declared the year of the Teacher and Mentor by the President of the Russian Federation Decree No. 401, June 27, 2022.

According to the authors, project activity as a form of educational process organizing provides a wide range of didactic opportunities for students to acquire competencies "in the direction of research activities, product development, team interaction in the area of solving actual production and entrepreneurial problems" (Bakaeva et al., 2020, p. 29). At the same time, according to Trishchenko D.A., using the project method, follows an essential requirement: "a significant problem presence that requires a creative solution based on integrated knowledge and analysis research" (Trishchenko, 2018, p. 136).

The specificity of project-oriented learning is the changing interactive structure between the teacher and the student. The teacher's position "from above" (as in traditional teaching), and "outside" position (as in independent work) is changed. The main teacher's task is to support students' activities, which is understood by the psychological and pedagogical community as "a system of the teacher's professional activities aimed to create conditions for successful learning and development of student's personality in various learning situations." (Bakaeva et al., 2020, p. 29). Consideration of the teacher's activities is fixed in the role position of the mentor. "In his activity, the mentor combines the work of a moderator, a coach, a tutor, a teacher, an expert, a researcher, an engineer, an entrepreneur, but his activity is not reducible to any of them" (Nikolsky and Neslukhovskaya, 2020, p. 138). Seisenbayeva and her colleagues characterize the position of the project team mentor as an enthusiast, a specialist, a consultant, a leader, a coordinator, an expert which is asking questions, while it should be hidden, providing space for students' independence (Seisenbayeva et al., 2018).

The authors make mentors responsible for such process areas as team group dynamics, team psychological support during the work, assistance in reflection (assessment of their competencies), assistance in the self-realization of each participant in the project, development of participants' competencies, both hard and soft skills, organization of team business communication, assistance in project team product presentation.

Project method application must be accompanied by teachers special pre-training, because formal characteristics of the project method emphasize more often than on the essential characteristics (Dreher, 2013; Turlo, 2013); it is also noted that effectiveness decrease in the project method implementation is largely associated with insufficient qualified teachers (Kazun and Pastukhova, 2018; Hattum-Janssen, 2012; Kołodziejwski and Przybysz-Zaremba, 2017). Likely, the specifics of mentoring in project activities and the requirements for the level of competencies of a mentor also determine the psychological portrait of a person whose individual typological characteristic will allow to manage with the mentor functions as efficiently as possible.

For example, Kobernyk and colleagues note that motivational sphere features and the teacher's orientation towards cooperation with students determine the effectiveness of the project method implementation (Kobernyk et al., 2022), and Telnova S.V. and Pozynich K.P. describe not only the basic competencies, but also highlight the personal qualities which are necessary for a mentor: "communicative and organizational competencies, acceptance of your own role, focus on working with people, self-development, responsibility, adaptability, openness to new ideas" (Tel'nova and Pozynich, 2021, p. 44), studying mentor's necessary qualities, along with professional competence, it is noted "willingness to share experience, willingness to spend time with mentored, emotional balance and the ability of self-organization and as well as others." (Ignat'eva and Ryabkova, 2018, p. 48). Wiewiora A., Chang A., Smidt M., based on project participants feedback, emphasize the importance of the mentor figure as the person helping to cope with emotions, providing support and quality feedback (Wiewiora, Chang and Smidt, 2020, p. 31). Floris & Cuganesan mark cognitive and emotional complexity as a necessary property for the project mentor (Floris and Cuganesan, 2019), and Malik and colleagues point out that communication features within the team and its autonomy, which is one of the mentor's responsibility areas, influence the level of project team members motivation (Malik, Sarwar and Orr, 2021). According to Krasilo D.A., the mentor becomes a significant adult for boys and girls and acts as a "guide to adulthood", assisting in self-determination (Krasilo, 2006).

Hence, the purpose of this research is to study communicative and motivational sphere of teachers' characteristic who are included into project activities as student teams mentors, and to high-light the degree of their influence on success level of this activity implementation.

As an empirical basis for the research, project mentors of the SfeduNet project-educational intensive course, implemented on the basis of the Southern Federal University in cooperation with the NTI University 20.35, were chosen. This program has been implemented by the Southern Federal University

since 2019, five design and educational intensives were held, in which more than 2,000 students took part.

As a part of the program, students are selected. As a result, teams of 4-10 people are formed who will be working on the projects for 3-6 months. In addition to the task of project creation, participants are trained to study design basics, market analysis, target audience needs, product creation and its presentation. Each team is assigned by a mentor who performs the functions of motivation, consultation, facilitation of team members. The features of interaction between the mentor and the team, as well as the team inside, are reflected in the success of the project and the uniqueness of the product result.

Materials and Methods

To achieve this goal, an empirical study was organized. Based on the feedback from the students participating in the intensive, project mentors and expert supervisors, as well as the organizations requirements for the mentor by realizing project activities, a list of more than 50 personal qualities, which are necessary for the successful mentoring, was obtained. The identified qualities were grouped into logical blocks (communicative skills and communicative orientation, self-regulation, emotional intelligence). Based on the resulting list, approved valid test methods were selected as methodological tools that define the level of expression significant for the mentor qualities.

Methods which were used:

1. Methodology for diagnosing general communicative tolerance (V.V. Boyko);
2. Motivation for success and fear of failure (A.A. Rean);
3. Test questionnaire "Communicative and organizational inclinations (COI-2)";
4. Emotional Intelligence Questionnaire D.V. Lucina;

The methods of mathematical statistics were used to obtain the results: descriptive statistics, one-sample Kolmogorov-Smirnov test, one-way analysis of variance ANOVA with Bonferroni correction, Student's t-test for two independent samples (calculations were carried out using SPSS 26.0).

The following hypotheses were tested:

- (1) mentors with different levels of success have different degrees of expression of communicative and motivational personality features;
- (2) successful in project activities mentors have high levels of communicative tolerance, established success and achievement of results, a highly developed emotional intelligence in general and the components that form its structure;
- (3) unsuccessful mentors may show excessive criticality, exactingness, motivation in communicating with themselves and a high level of using themselves as a standard when evaluating others, low indicators of emotional intelligence and communicative tolerance.

The object of the empirical study was 84 SfeduNet intensive mentors, aged 26 to 55 years ($M=40.70$; $SD=7.36$), of which 20.20% were men and 79.80% were women. The sample size of 84 people is caused by the generally limited number of project mentors of project student teams.

Based on the organizers' expert assessment of the project intensive; assessment of the quality of activities performed by students; places occupied by teams under project mentors' guidance in various project intensives and personal rating among mentors within the intensive, the average rank of each particular mentor was calculated. Based on these ranks, three study groups were formed demonstrating project mentors' level of success: with a high level of success (Group 1), with an average level of success (Group 2) and with a low level of success (Group 3). At the same time, the volume of group 1 was 26 people, group 2 included 33 mentors, and group 3 consisted of 25 people.

Results

Results are the third section of an IMRAD paper. Its purpose is to present the new information gained in the study being reported. It should be clear and concise. The Results are core of the paper. You shouldn't start the Results section by describing methods that you inadvertently omitted from the Materials and Methods section. The Results must be writing in past tense.

To verify the first assumption about different severity of the leading individual mentors' psychological qualities with different levels of success, a one-way analysis of variance (ANOVA) was chosen to determine the significance of differences between the three groups of mentors.

It was found that in all aspects of relationships, mentors with different levels of success showed a fairly high level of communicative tolerance, which indicates a low tendency of all respondents to

conflicts, to inadequate behavioral reactions in various situations of interpersonal interaction. In general, we can say that mentors are able to build the process of communication in general, and communication in particular, due to which its effectiveness increases, they demonstrate a highly developed ability to create a comfortable psychological climate in the process of interpersonal interaction and joint activities (Table 1).

Table 1

Indicators of communicative tolerance of mentors with different levels of success (N = 84)

Scale	Group 1 (M (SD))	Group 2 (M (SD))	Group 3 (M (SD))	F	p
Rejection or misunderstanding another person individuality	4,46 (2,37)	5,12 (2,51)	3,48 (2,36)	3,262	0,043
Using yourself as a reference for judging others	2,42 (2,30)	3,12 (2,39)	4,60 (2,71)	5,198	0,008

To verify the first assumption about the different severity of individual psychological qualities among mentors with different levels of success, a one-way analysis of variance was chosen to determine the significance of differences between the three groups of mentors. It should be noted that statistically significant differences were found only in the degree of severity of two components of communicative tolerance: "rejection or misunderstanding of another person's individuality" and "using herself or himself as a reference in behavior evaluation and way of thinking of other people". In this regard, in order to obtain more differentiated data, the results were subjected to a comparative analysis in pairs, using Student's t-test for independent samples (Table 2-3).

Comparative analysis of the severity of some aspects of mentors' communicative tolerance with a high and medium level of success did not reveal statistically significant differences in any of the indicators, which allows us to talk about high efficiency in interpersonal communication and interaction, the ability to establish high-quality interpersonal relationships between group members, find the correct communication way to each of them and create a positive psychological climate within the group.

Comparative analysis of the severity of some aspects of mentors' communicative tolerance with an average and low level of success revealed that mentors of both groups demonstrate low categoricalness in assessing others, the ability not to show a negative attitude towards people, a low desire to re-educate or adjust communication subjects to suit themselves, their standards, and know how to adapt to others, tolerant of mistakes and well-being and negative states of group members, understand and accept their individual psychological and personal characteristics. However, it was found that mentors with an average success level demonstrate more obvious dislike, insufficient understanding and acceptance of some features of other people individuality, but mentors with a low success level tend to evaluate others based on their ideas of good and bad, considering themselves a model, a standard, the measure of the ideal personality.

Table 2

Indicators of communicative tolerance of mentors with medium and low levels of success

Scale	Group 2 (M (SD))	Group 3 (M (SD))	t	p
Rejection or misunderstanding another person individuality	5,12 (2,51)	3,48 (2,36)	2,528	0,014
Using yourself as a reference for judging others	3,12 (2,39)	4,60 (2,71)	2,201	0,032

Comparative analysis of the severity of some aspects of mentors' communicative tolerance with high and low success levels also revealed a high level of mentors' communicative tolerance of both groups, a highly developed ability to accept other people in all variety of their individual demonstrations, flexibility in assessing personal characteristics, the ability to recognize the right to make mistakes, to negative psycho-emotional states.

At the same time, mentors with a high success level are distinguished by a less detected desire

to consider themselves a reference personality and compare other people's qualities and characteristics with their own personal characteristics.

Table 3

Indicators of communicative tolerance of mentors with high and low levels of success

Scale	Group 1 (M (SD))	Group 3 (M (SD))	t	p
Using yourself as a reference for judging others	2,42 (2,30)	4,60 (2,71)	3,098	0,003

Thus, it was proved that despite the high communicative tolerance of mentors with different levels of success, mentors with high and medium levels of success have more expressed tolerance, the ability to understand and accept other people's individuality, and their peculiarity. Mentors with a low level of success are distinguished by a more detected desire to evaluate the actions, behavior, thoughts, actions and activities of other people, focusing on themselves as standards.

Results analysis of motivation diagnosing for success and fear of mentors' failure with different levels of success revealed the orientation of mentors with a high level of success towards success, while the motivation of the mentors of the other two groups does not have obvious orientation (Table 4).

Table 4

Indicators of motivation for success and fear of failure of mentors with different levels of success (N = 84)

Scale	Group 1 (M (SD))	Group 2 (M (SD))	Group 3 (M (SD))	F	p
Motivation	13,08 (2,87)	11,06 (3,49)	11,32 (3,26)	3,144	0,048

In order to obtain more differentiated data, we compared the results of the study in groups of mentors with different levels of success in pairs and used Student's t-test for independent samples (Table 5).

Comparative analysis of the severity of the motivation to achieve success and avoid failures proved the orientation of the mentors of the first group towards success, which indicates positive motivation, a detected desire to get a positive result, to find a constructive approach to solving a problem that will lead to victory, triumph.

Table 5

Indicators of motivation for success and fear of failure of mentors with high, medium and low levels of success

Scale	Group 1 (M (SD))	Group 2 (M (SD))	t	p
Motivation	13,08 (2,87)	11,06 (3,49)	2,378	0,021
Motivation	Group 2 (M (SD))	Group 3 (M (SD))	t	p
	11,06 (3,49)	11,32 (3,26)	0,288	0,744
Motivation	Group 1 (M (SD))	Group 3 (M (SD))	t	p
	13,08 (2,87)	11,32 (3,26)	2,044	0,046

We also found no differences in the communicative and organizational inclinations of mentors with different levels of success (Table 6). All respondents are characterized by an average level of both communicative and organizational inclinations, which, on the one hand, indicates sufficiently developed skills in establishing contacts with strangers, easy orientation in unfamiliar and typical situations, a tendency to help and support other people, take initiative, perseverance in decision making. On the other hand, these abilities are quite unstable, their potential may not be fully revealed or not revealed at all in a given situation or in interaction with some people.

Table 6
Indicators of communicative and organizational inclinations of mentors with different levels of success (N = 84)

Scale	Group 1 (M (SD))	Group 2 (M (SD))	Group 3 (M (SD))	F	p
Communicative tendencies	10,57 (1,90)	10,39 (2,74)	9,60 (2,53)	1,164	0,317
Organizational inclinations	9,81 (2,29)	10,18 (1,84)	10,36 (3,05)	0,357	0,701

Differences were also found in the development of interpersonal emotional intelligence among mentors with different levels of success (Table 7). In general, all mentors are characterized by well-developed intrapersonal emotional intelligence and, as a result, the general level of emotional intelligence. Those mentors have well-developed abilities to understand and manage their emotions. They perfectly determine the state of another person on the basis of non-verbal expressions, are able to suppress their unwanted emotions, manage the manifestation of their emotions well and control their emotional states.

Table 7
Indicators of emotional intelligence of mentors with different levels of success (N = 84)

Scale	Group 1 (M (SD))	Group 2 (M (SD))	Group 3 (M (SD))	F	p
Interpersonal emotional intelligence	37,73 (8,49)	37,21 (5,46)	32,96 (7,70)	3,454	0,036

For more differentiated data, obtained results were subjected to a comparative analysis in pairs, using Student's t-test for independent samples (Table 8-9).

Comparative analysis of emotional intelligence level and its components, mentors included in its structure with high and average levels of success did not reveal statistically significant differences in any of the indicators, which allows us to speak about the well-developed mentors' emotional intelligence of both groups, their ability to understand and manage with mentors' and other persons' emotions.

Comparative analysis of the emotional intelligence level and its components, mentors included in its structure with an average and low level of success has shown that mentors with an average level of success have more developed emotional intelligence due to highly developed ability to control other people emotions, to evoke emotions which are necessary at present and stop unwanted or excessively intense emotions.

Table 8

Indicators of emotional intelligence of mentors with average and low levels of success

Scale	Group 2 (M (SD))	Group 3 (M (SD))	t	p
Managing other people's emotions	17,33 (2,84)	15,40 (3,34)	2,381	0,021
Interpersonal emotional intelligence	37,21 (5,46)	32,96 (7,70)	2,462	0,017
General level of emotional intelligence	77,55 (9,57)	71,56 (12,49)	2,065	0,044

Comparative analysis of emotional intelligence level and its components, mentors included in its structure with a high and low level of success proved that mentors with a high level of success have more developed interpersonal emotional intelligence due to a well-developed ability to understand other people emotions, highly developed empathy, and the ability to differentiate emotions and emotional states of other people based on the interpretation of non-verbal expressions.

Table 9

Indicators of emotional intelligence of mentors with average and low levels of success

Scale	Group 1 (M (SD))	Group 3 (M (SD))	t	p
Understanding other people's emotions	20,56 (5,05)	17,58 (5,65)	2,063	0,044
Interpersonal emotional intelligence	37,73 (8,49)	32,96 (7,70)	2,099	0,041

Based on average values, we were able to compile a personality profile of the most successful project mentor. Features in motivational, communicative and emotional spheres were found. Thus, the most successful mentors are characterized by increased success motivation.

It is also registered by Kobernyk and colleagues, who note that positive motivation is the most important characteristic of a teacher who implements the project method. Communicative sphere of successful mentors is characterized by the following features: a low desire to make a partner comfortable for them to communicate, they have more intense tolerance, ability to understand and accept other people's individuality or their specificity.

Successful mentors show the orientation towards other people's emotions: they have higher rates of understanding and another's emotions managing, along with a high level of interpersonal emotional intelligence; at the same time, indicators of understanding and managing their own emotions and expression are lower than those of other mentors (Table 8).

Discussions

According to the results of the empirical research, all the hypotheses which had been put forward by us were confirmed. Summarizing the above, we can say that all mentors, regardless of their success degree, have high communicative tolerance, well-developed emotional intelligence, understand their activities motives, they are motivated to achieve success and positive results in their activities. Blinov V.I., Yesenina E.Yu., Sergeev I.S. spoke about the importance of these properties and competencies in their work, who noted the importance of developing emotional and communicative intelligence (Blinov, Yesenina and Sergeev, 2019).

Motivation for achieving success, emotional and volitional stability, adaptive potential, empathy, social sensitivity as professionally important qualities of a mentor were also highlighted by Kolesnichenko K.V. in her work. According to her, the professionally important qualities of a teacher include "figurative thinking, speech features, selectivity of attention, switching of attention, distribution of attention, short-term and random access memory, verballogical memory, storage in long-term memory, cognitive control flexibility, interferability, non-conformism" (Kolesnichenko, 2012), which confirms the point of view that mentor functions performance requires the teacher to have specific competencies and the presence of certain personal characteristics.

Also, some features were identified unique only to mentors with a particular level of success. Thus, mentors with a high level of success are distinguished by a highly developed success orientation and achieving results.

Thus, mentors with a high and average level of success have more a highly developed ability to understand and accept other people's individuality, their specificity, a high level of interpersonal emotional intelligence, the ability to respond adequately and easily adapt to new and changing activity conditions.

But mentors with a low level of success are distinguished by more detected desire to evaluate the actions, behavior, thoughts, actions and activities of other people, focusing on themselves as a standard. At the same time, mentors with a low level of success are distinguished by less developed inter-personal emotional intelligence, which manifests itself in a poorly developed ability to both understand and manage the emotions of other people.

At the same time, low flexibility, low level of communicative competence and communicative tolerance, inability to see the specifics of others and using himself as a standard in general demonstrate the authoritarian leadership style of a mentor, which is typical for mentors from an unsuccessful type of group. Thus, we can conclude that in mentoring student projects, psychological maturity and communicative flexibility are much more important than an expert and rigidly regulated position.

Probably, identified features determine the pedagogical and moderator-facilitator position according to Glazunova O.V. (Glazunova, 2020), the most relevant for the participants of the project-educational intensive SfeduNet, which defines the development of the project, hard and soft skills of students as the main goals, and not just the creation of a product as a result of the project. Perhaps a different goal of the intensive as a whole would require different mentor positions (expert, methodological, product) and, as a result, a different personal profile and competencies.

Conclusions

Project students' activity is one of the most important tools for the future professional competence formation, "which guarantees successful adaptation and professionalization of a person on a career path." (Turlo, 2013). The most important role in accompanying students in project activities realization is played by the mentor - the teacher who acts as a tutor, a coach, an expert, performing functions of motivation, facilitation and organization. Also, creating conditions for effective communication between project team members. Wide mentor's functionality imposes special requirements for the level of development of his or her competencies and personal qualities, the study of which was the goal of this research, realized on the basis of the project-educational intensive of the Southern Federal University SfeduNet 4.0.

During the empirical study, the individual typological characteristics of project mentors were studied. Thus, a project mentor has the following characteristics: a high degree of communicative tolerance; motivation for success; general level of emotional intelligence, including the ability to manage and understand one's own and others' emotions. In addition, the properties that determine the effectiveness of the mentor's activities accompanied by the project team were identified, namely: tolerance, the ability to understand and accept the individuality of other people, their specificity, orientation towards achieving success, an invaluable attitude towards people, beyond comparison with oneself and one's own values. preferences, high level of interpersonal emotional intelligence.

Obtained data have practical significance and are widely used in project activities implementation at the stage of selection, training and support of mentors. So, at the selection stage, diagnostic methods can be used to select candidates which determine the level of expression of mentors' key characteristics: communicative tolerance, emotional intelligence, motivation to achieve success. According to obtained during the selection results, a program of mentors' training and educating can be formed, which helps to master not only project activities basics and the intensive organizational side, but also to develop necessary for the mentor universal and meta-competences, which are necessary for effective communication with the team. Also, obtained results can help in preparation of additional materials and methodological

recommendations that increase communicative mentors' competence.

Conflict of interests

The authors declare no conflict of interest.

Author Contributions

Conceptualization, G.E.D., S.E.G. and T.E.C.; methodology, G.E.D.; software, S.E.G.; formal analysis, G.E.D. and S.E.G.; writing—original draft preparation, G.E.D. and S.E.G.; writing—review and editing, T.E.C. and S.E.G. All authors have read and agreed to the published version of the manuscript.

References

- Bakaeva, I.A., Bondarev, M.G., Goryunova L.V. et al. (2020). Tutor support of students' project activities: theoretical and methodological foundations and implementation practice: *monograph* In Taganrog: Publishing House of the Southern Federal University. South Federal University. - Rostov-on-Don – 224, <https://doi.org/10.18522/801273623> (In Russ.).
- Blinov, V. I., Yesenina, E. Y., & Sergeev, I. S. (2019). Mentoring in education: a well-sharpened tool is needed. *Vocational education and labor market*, 3, 4-18. Retrieved from <https://cyberleninka.ru/article/n/nastavnichestvo-v-obrazovanii-nuzhen-horosh-zatochenyi-instrument> (In Russ.).
- Dreher, R. (2013). Implementing the principles of project based education in Bachelor courses. *Vysshee obrazovanie v Rossi= Higher Education in Russia*, 2, 46-49. (In Russ.).
- Floris, M., & Cuganesan, S. (2019). Project leaders in transition: Manifestations of cognitive and emotional capacity. *International Journal of Project Management*, 37(3), 517-532. <https://doi.org/10.1016/j.ijproman.2019.02.003>
- Glazunova O. V. (2020). On various approaches to the practice of mentoring and support of design and research work. *In Researcher*, 1(29), 104-134. Retrieved from <https://cyberleninka.ru/article/n/o-razlichnyh-podhodah-k-praktike-nastavnichestva-i-soprovozhdeniya-proektnykh-i-issledovatel'skikh-rabot> (In Russ.).
- Hattum-Janssen, N. V. (2012). The Role of Teachers in Projects. In: Campos, L.C.d., Dirani, E.A.T., Manrique, A.L., Hattum-Janssen, N.v. (eds) *Project Approaches to Learning in Engineering Education*. SensePublishers, Rotterdam. https://doi.org/10.1007/978-94-6091-958-9_11
- Ignat'eva, E. V., & Ryabkova, Y. U. (2018). V. Study of the readiness of university teachers to carry out mentoring activities. *Perspektivy nauki i obrazovaniya*, 4(34), 45-51, Retrieved from <https://cyberleninka.ru/article/n/issledovanie-gotovnosti-prepodavateley-universiteta-k-osuschestvleniyu-nastavniceskoy-deyatelnosti> (In Russ.).
- Kazun, A. P., & Pastukhova, L. S. (2018). The practices of project-based learning technique application: Experience of different countries. *The Education and science journal*, 20(2), 32-59. <https://doi.org/10.17853/1994-5639-2018-2-32-59> (In Russ.).
- Kobernyk, O., Kolomiiets, N., Komar, O., Roienko, L., & Baidiuk, L. (2022). Project Method Efficiency for the Teachers' Professional Activities. *Journal of Curriculum and Teaching*, 11(1), 73-86. <https://doi.org/10.5430/jct.v11n1p73>
- Kolesnichenko K.V. (2012). *Professionally important qualities of the personality of a mentor of young specialists (on the example of pedagogical activity) dissertation ... candidate of psychological sciences: 19.00.03 / Kolesnichenko Claudia Vladimirovna; [Place of defense of the thesis: Russian State Pedagogical University. A. I. Herzen].- St. Petersburg (In Russ.)*.
- Kołodziejewski, M., & Przybysz-Zaremba, M. (2017). Project method in educational practice. *University Review*, 11(4), 26-32.
- Krasilo D.A. (2006). Orienting image of the instructor of growing up in the period of entry of adulthood] In *Psychological Science and Education*. 11(1), 50–62.
- Malik, M., Sarwar, S., & Orr, S. (2021). Agile practices and performance: Examining the role of psychological empowerment. *International Journal of Project Management*, 39(1), 10-20. <https://doi.org/10.1016/j.ijproman.2020.09.002>.
- Nikolsky V.S., Neslukhovskaya A.V. (2020). Competences of a mentor of project-based learning and its role in mastering the project-based approach by students. In *Researcher*, 1(29), 135-143. <https://cyberleninka.ru/article/n/kompetentsii-nastavnika-proektnogo-obucheniya-i-ego-rol-v-osvoenii-proektnogo-podhoda-uchaschimisya> (In Russ.).
- Seisenbayev, Z., Nuriev, M., Rauandina, A., & Osmanova, Z. (2018). The role of project activity in the formation of future specialists. *Opción*, 34(85), 394-422. <https://www.produccioncientificaluz.org/index.php/opcion/article/view/23532>
- Sharipov, F. V. (2012). Technology of project training. *Pedagogicheskij zhurnal Bashkortostana=Pedagogical Journal of Bashkortostan*, 2(39), 87-93. (In Russ.).
- Tel'nova S. V., Pozynich K.V. (2021). Mentorship in project teams in the implementation of project activities at the university: problems and prospects. In *SCIENCE PROSPECTS*, 2(137), 41-46.
- Trishchenko, D. A. (2018). Experience of project-based learning: An attempt at objective analysis of results and problems. *The Education and science journal*, 20(4), 132-152. <https://doi.org/10.17853/1994-5639-2018-4-132-152>
- Turlo E. M. (2013). Project training in higher education. In *Problems and Prospects of the Development of Education in Russia*; 19, 79–84. (In Russ.).
- Wiewiora, A., Chang, A., & Smidt, M. (2020). Individual, project and organizational learning flows within a global project-based organization: exploring what, how and who. *International journal of project management*, 38(4), 201-214. <https://doi.org/10.1016/j.ijproman.2020.03.005>